

Three New Species of *Masdevallia* (Orchidaceae) from South America

Carlyle A. Luer

Missouri Botanical Garden, P.O. Box 299, St. Louis, Missouri 63166, U.S.A.

ABSTRACT. The following three species described as new in *Masdevallia* represent three sections of subgenus *Masdevallia*. *Masdevallia goliath* is a successively flowered, round-stemmed species of section *Coriaceae* subsection *Duræ*. *Masdevallia mascarata* is a member of section *Polyanthes* subsection *Alaticaulæ*, distinguished by triquetrous peduncles. *Masdevallia ricii* is a member of subsection *Saltatrices*, noted for the long sepaline tubes, of section *Masdevallia*.

Masdevallia goliath Luer & Andreetta, sp. nov.

TYPE: Ecuador. Prov. of Morona-Santiago: epiphytic, near Bomboiza, alt. 1,700 m, collected by A. Andreetta, flowered in cultivation at Paute, 24 May 1988, *C. Luer 13629* (holotype, MO). Figure 1.

Species haec *Masdevalliae ayabacanae* Luer affinis, sed sepalorum caudis longioribus illis lateralium approximatis, petalis minute asperatis et labelli marginibus apicalibus valde revolutis differt.

Plant medium to large, epiphytic, caespitose; roots coarse. Ramicauls stout, erect, 2–3 cm long, enclosed by 2–3 tubular sheaths. Leaf erect, thickly coriaceous, narrowly obovate, obtuse, 10–23 cm long, 2.5–3.5 cm wide, gradually narrowed below into an indistinctly petiolate base. Inflorescence a congested, successively few-flowered raceme borne by a terete, purplish, \pm horizontal to ascending or descending peduncle 20–35 cm long, with 2–3 close bracts below the middle, from low on the ramicaul; floral bract tubular, 15 mm long; pedicel 10–15 mm long; ovary 10 mm long; sepals fleshy, dark red-purple, glabrous externally, minutely glandular-pubescent within, the dorsal sepal narrowly triangular-ovate, 20–30 mm long, 12–15 mm wide, the acute apex attenuated into a slender, erect, orange to green tail 6–9 cm long, connate to the lateral sepals for 6–9 mm to form a short, conical tube, the lateral sepals ovate, oblique, ca. 35 mm long, \pm prominently veined within, connate 17–23 mm into a concave lamina, 26–34 mm wide, the acute apices approximate and attenuated into tails 5–9 cm long; petals cartilaginous, yellow, dotted with purple, minutely asperate-verrucose, broadly oblong, shortly unguiculate, 5.5 mm long, 3.25 mm

wide, the truncate apex bilobed with a thick, obtuse apiculum in the sinus, both halves callous, shallowly sulcate centrally; lip yellow-orange, dotted with red-purple, thick, oblong-ligulate, 6 mm long, 2.75 mm wide, the apical third thickened, verrucose, with revolute margins, the apex rounded with a thick, verrucose callosity beneath, the disc shallowly sulcate, the base subcordate, hinged beneath; column cream-colored, stout, semiterete, 4 mm long, the foot thick with a very short, incurved extension.

Other specimens examined. PERU. AMAZONAS: near Tarapoto, collected by M. Arias, flowered in cultivation by W. Rhodehamel at Hoosier Orchid Co., Indianapolis, Indiana, *W. Rhodehamel s.n.* (MO).

Etymology. Named for the Philistine giant Goliath.

This large, robust species occurs locally in cloud forests of southeastern Ecuador and northeastern Peru. It is closely allied to the Peruvian *Masdevallia ayabacana* from the mountains of northwestern Peru, but *M. goliath* is distinguished by the flowers with longer sepaline tails. The apices of the lateral sepals are approximate so that the bases of the tails touch in the natural position. The angle between the apices of the lateral sepals of *M. ayabacana* is obtuse.

The cartilaginous petals are minutely exasperate on the margins and nearby. The petals of *M. ayabacana* are smooth. The margins of the verrucose apical third of the lip are acutely revolute resting against a prominent tuberosity beneath the apex.

Masdevallia mascarata Luer & Vásquez, sp. nov.

TYPE: Bolivia. Santa Cruz: epiphytic in moist forest south of Yapacaní, alt. 650 m, 7 Sep. 1991, *C. Luer, J. Luer, L. Moreno & D. Ric 15402* (holotype, MO; isotypes, AMES, LPB). Figure 2.

Species haec *Masdevalliae auropurpureae* Reichb. f. affinis, sed pedunculo ascendenti vel horizontali, synsepalo ovato et labello lateriore differt, etiam *M. zahlbruckneri* Krzl. persimilis, sed pedunculo triquetro, petalis oblongis et labello plicato differt.

Plant small to medium in size, epiphytic, caespitose; roots slender. Ramicauls slender, erect, 0.5–1.5 mm long, enclosed by 2–3 thin, tubular sheaths.

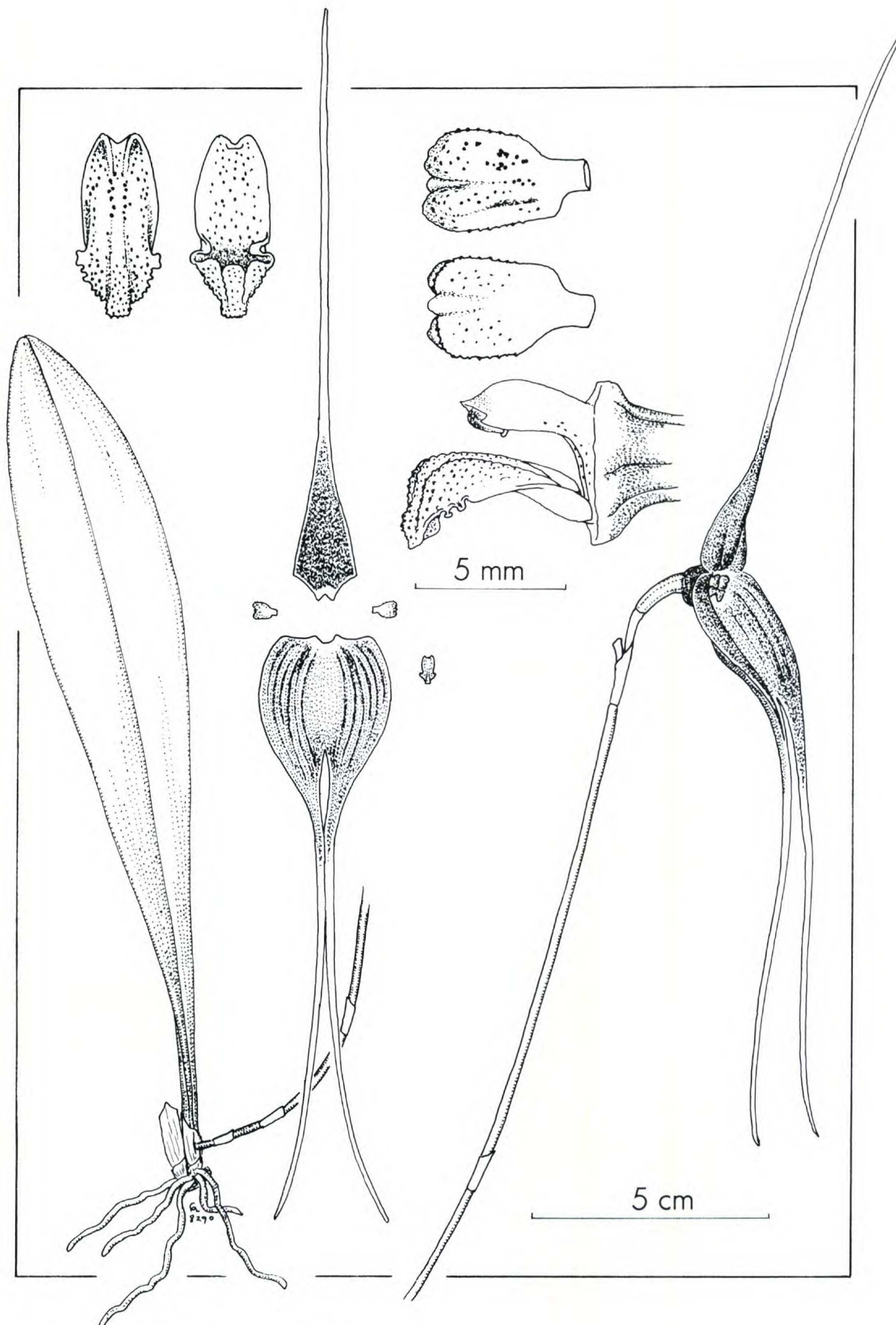


Figure 1. *Masdevallia goliath* Luer & Andreetta.

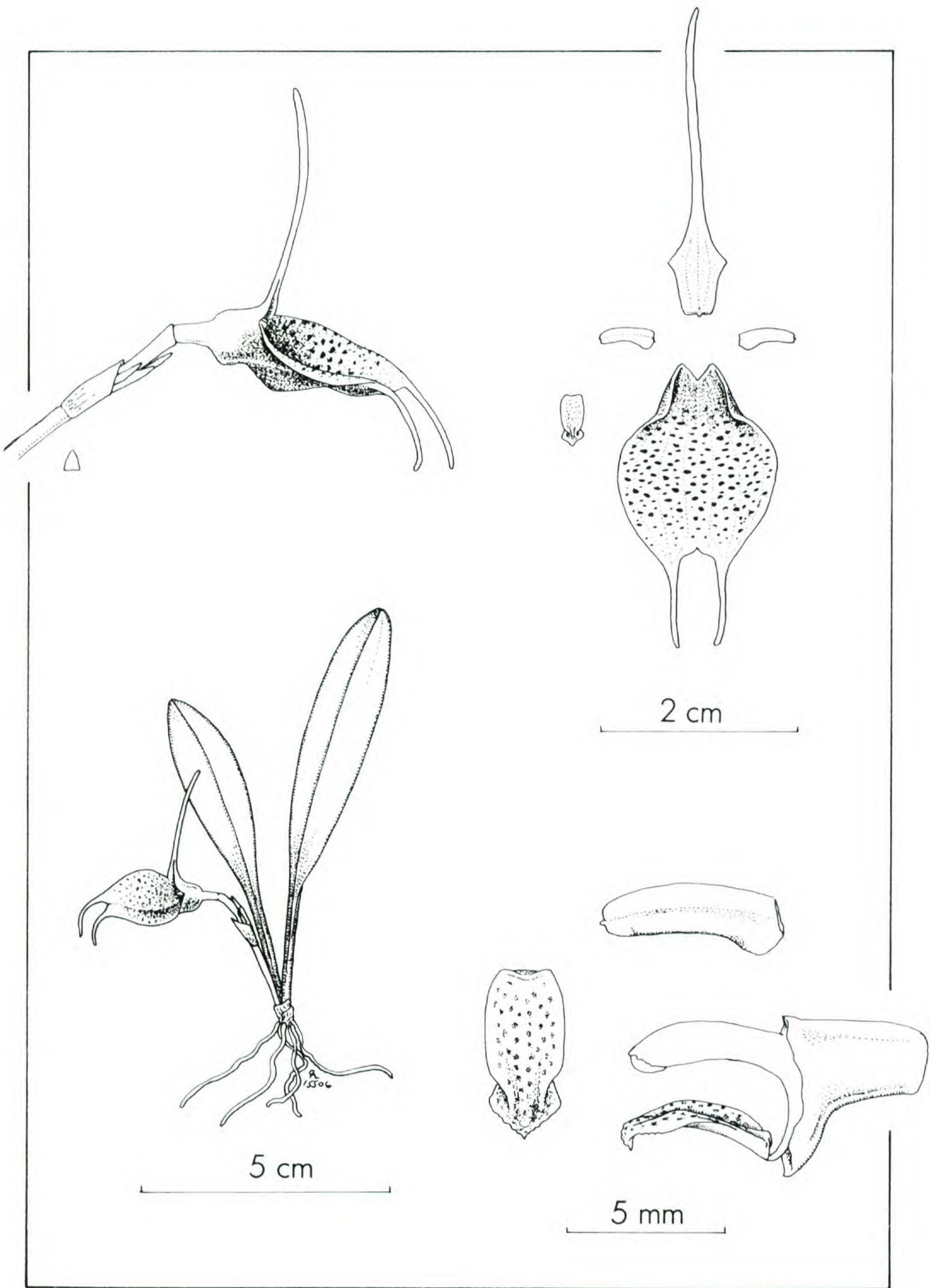


Figure 2. *Masdevallia mascarata* Luer & Vásquez.

Leaf erect, coriaceous, subpetiolate, 3–7.5 cm long including the petiole 0.5–1.5 cm long, the blade narrowly elliptical, subacute, 0.8–1.5 cm wide, the base narrowly cuneate into the petiole. Inflorescence a solitary flower, produced successively in a loose, few-flowered raceme, borne by a suberect, ascending to horizontal, triquetrous peduncle, up to 5 cm long including the peduncle 1.5–3 cm long, with a bract at the base, from the base of a ramicaul; floral bract 5–7 mm long; pedicel 7–13 mm long; ovary 2–3.5 mm long; sepals yellow, microscopically sparsely pubescent within, the dorsal sepal obovate, 7–8 mm long, 4–6 mm wide, connate to the lateral sepals for 4.5–6 mm to form a short, sepaline tube, the apex broadly obtuse, contracted into an erect, stout, yellow tail 12–23 mm long, the lateral sepals diffusely dotted with red-purple, coalescing toward the base, suffused with red-purple externally, 12–20 mm long, connate 10–17 mm into an ovate, bifid lamina 10–16 mm wide, the apices acute, contracted into subapproximate, slender tails 6–9 mm long; petals yellow, oblong, 5–6 mm long, 1.5 mm wide, the apex subtruncate, obscurely bilobulate, the labellar half longitudinally thickened ending in a low, rounded callus above the base; lip yellow, dotted with purple, oblong-subpandurate, 4.5–5 mm long, 1.5–2.25 mm wide, with oblique marginal folds above the middle, the apical portion broadly ovate, obtuse, minutely subverrucose and erose, the lower portion oblong, the disc shallowly channeled, the base truncate, thick and deep, presenting a flat, subquadrate surface on the end, hinged beneath; column yellow, stout, semiterete, 4–5 mm long, with a foot 2–3 mm long including a short extension.

Other specimens examined. BOLIVIA. NEAR SANTA CRUZ WITHOUT SPECIFIC LOCALITY: collected by L. Moreno, cultivated by Springdale Orchids, Cincinnati, Ohio, flowered in cultivation by Hoosier Orchids, Indianapolis, Indiana, July 1991, *C. Luer* 15506 (MO).

Etymology. From the Greek *maskaratos*, “masked,” in allusion to the confusing identity.

This species occurs in the warm, moist lowlands of central Bolivia. Although it appears deceptively similar to *Masdevallia zahlbruckneri*, known to occur farther west in central Bolivia, it is more closely related to *M. auropurpurea*, previously known only from the lower altitudes in the Eastern Cordillera of Colombia. However, *M. auropurpurea* has recently been discovered in the Alto Beni province of La Paz, Bolivia. The peduncle of *M. mascarata* is triquetrous (triangular in cross section), placing it in section *Polyanthes*. The oblong petals with a low, basal callus, and the plicated lip confirm placement in this section.

Masdevallia mascarata is distinguished by a loose, successively few-flowered raceme, similar to that of *M. zahlbruckneri*, but more erect with the peduncle triquetrous as in *M. auropurpurea*. The peduncle of *M. zahlbruckneri* is round in cross section. Superficially, the yellow, purple-dotted flower of *M. mascarata* looks exactly like that of *M. zahlbruckneri*, but when bleached colorless, it is similar to the flowers of *M. auropurpurea* or *M. bicolor* and their relatives.

The lip of *M. zahlbruckneri* is oblong with a pair of low, longitudinal carinae, and a subcordate base. The lip of *M. mascarata* is plicate above the middle, and the base is thick and more or less flat on the end, a curious feature also found in other Bolivian species (e.g., *M. ricii*), but not necessarily in the same section.

***Masdevallia ricii* Luer & Vásquez, sp. nov. TYPE:**

Bolivia. Santa Cruz: epiphytic in moist forest above Mairana, La Yunga, alt. 2,090 m, 8 Sep. 1991, *C. Luer, J. Luer, R. Vásquez & D. Ric* 15416 (holotype, MO; isotype, LPB). Figure 3.

Inter species subsectionis *Saltatrices* species haec tubo sepalorum flavo aureosuffuso arcuato non ventricosus, petalorum dente longo incurvo, labelli arcuati base profunda differt.

Plant medium in size, epiphytic, caespitose; roots coarse. Ramicauls blackish, slender, erect, 1.5–3 mm long, enclosed by 2–3 thin, tubular sheaths. Leaf erect, coriaceous, petiolate, 5–12 cm long including the petiole 1.5–3 cm long, the blade narrowly elliptical, subacute, 1.2–2.2 cm wide, the base narrowly cuneate into the blackish petiole. Inflorescence a solitary flower, borne by a slender, erect peduncle 1.5–4 cm long, with a bract above the base, from low on the ramicaul; floral bract 7–8 mm long; pedicels 5–10 mm long; ovary 5 mm long; sepals pale yellow, suffused with orange and with a few small, red spots toward the base, glabrous externally, pubescent within above the middle, the trichomes simple or caespitose, the dorsal sepal narrowly obovate, concave, 14–15 mm long, 5 mm wide expanded, connate to the lateral sepals for 13–14 mm to form an arcuate, sepaline tube, the apex broadly obtuse, abruptly contracted into a forwardly directed, slender, olive-colored tail 25–27 mm long, the lateral sepals 15 mm long, connate 10 mm into a bifid, \pm obovate lamina, the free portions 6 mm wide, obtuse, contracted into tails similar to that of the dorsal sepal; petals light yellow-orange, oblong-obovate, 4.5 mm long, 1.5 mm wide, the apex

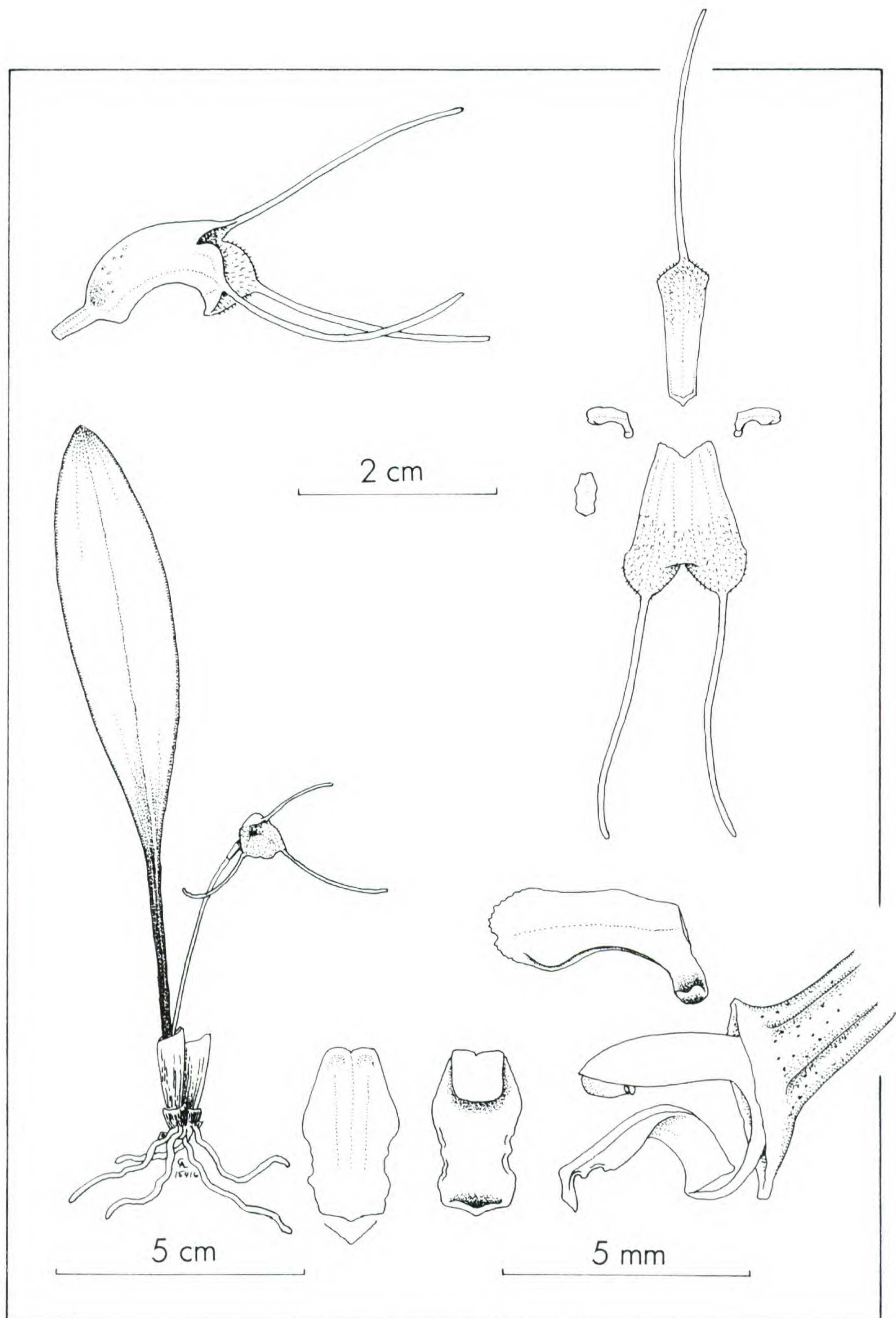


Figure 3. *Masdevallia riccii* Luer & Vásquez.

rounded, minutely erose, lightly notched, with a longitudinal carina along the labellar margin terminating at the base in a broad, thick, descending process with the tip incurved; lip yellow-orange, oblong, arcuate, 4 mm long, 1.75 mm wide, the sides undulate and decurved, the apex obtuse and decurved, the disc shallowly channeled, the base thick and deep, presenting a flat, subquadrate surface on the end, hinged beneath; column yellow-orange, stout, semiterete, 3 mm long, with a foot equally long including a slender extension 1.5 mm long.

Etymology. Named in honor of Darwin Ric of Montero, Bolivia, co-discoverer of this species.

This species occurs in cool moist forests of central Bolivia where it grows with *M. heideri* Königer, but much less abundantly. Unfortunately, these forests are currently in the process of being cut and burned.

Among the species of subsection *Saltatrices*, *M. ricii* is distinguished by the light yellow, long, arcuate, nonventricose, sepaline tube, suffused with orange and lightly dotted with red toward the base. The free portions of the sepals are rounded and contracted into slender, forwardly pointing tails. The petals are distinguished by a long, thick, basal process. The lip is arcuate and thick at the base with a broad, flat surface on the end.